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A NEW SPECIES OF THE GENUS *ADENISSUS* (HEMIPTERA: FULGOROIDEA: CALISCELIDAE) FROM UNITED ARAB EMIRATES

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ABSTRACT

Adenissus fuscus sp. nov. is described from Wadi Wurayah National Park in Fujairah Emirate of United Arab Emirates where it was collected on light during the night. Thus currently the genus *Adenissus* Linnavuori, 1973 is known after three species in Arabian Peninsula and *A. fuscus* sp. nov. is second species of the genus recorded from UAE. According to elongate coryphe *A. fuscus* sp. nov. is closely related to *A. isinus* Dlabola, 1980 described after a female from Hormozgan Province of Iran. *A. fuscus* sp. nov. well differs from *A. isinus* by smaller body size (female – 4.6 mm), brown general coloration, and longer fore wings reaching hind margin of abdominal tergite IV. Both *A. isinus* Dlabola and *A. fuscus* sp. nov. represent a distinct group within the *Adenissus* differs from other species of the genus by elongate coryphe and long rostrum reaching hind margin of abdominal sternum VII (other species of the genus have rostrum reaching just hind coxae). Male of *A. fuscus* sp. nov. (holotype) is characterized by wide phallobase, with denticated lateral margins and many denticles on ventral side, pygofer with spine-shaped process in its upper part which arises on inner side, and suspensorium with large horn-shaped process, pointed apically. A key to distinguish *A. isinus* Dlabola from *A. fuscus* sp. nov. is given.

Key words: Adenissina, *Adenissus*, Arabian Peninsula, Fujairah, Iran, morphology, Ommatidiotinae, systematics

НОВЫЙ ВИД РОДА *ADENISSUS* (HEMIPTERA: FULGOROIDEA: CALISCELIDAE) ИЗ ОБЪЕДИНЕННЫХ АРАБСКИХ ЭМИРАТОВ

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РЕЗЮМЕ

Adenissus fuscus sp. nov. описан из Национального парка Вади Вурайя, Эмирата Фуджейра Объединенных Арабских Эмиратов, где этот вид был собран ночью на свет. Таким образом, в настоящий момент род *Adenissus* Linnavuori, 1973 известен по трем видам с Аравийского полуострова, а *A. fuscus* sp. nov. является вторым видом рода в фауне ОАЭ. По наличию удлиненной корифы *A. fuscus* sp. nov. наиболее близок к *A. isinus* Dlabola, 1980, описанному по самке из провинции Гормозган в Иране. *A. fuscus* sp. nov. хорошо отличается от *A. isinus* меньшим размером (самка – 4.6 мм), бурой общей окраской и более длинными передними крыльями, достигающими заднего края 4-го брюшного тергита. Оба вида *A. isinus* Dlabola и *A. fuscus* sp. nov. представляют собой отдельную группу видов в пределах *Adenissus*, отличаясь от других видов рода удлиненной корифой и длинным хоботком, достигающим заднего края 7-го брюшного стернита (другие виды рода имеют хоботок, достигающий лишь задних кокс). Самец *A. fuscus* sp. nov. (holotype) характеризуется широкой фаллобазой с зубчатыми боковыми краями и множеством зубчиков на вентральной поверхности, пигофором с шиловидными выростами в его верхней части, отходящими с внутренней стороны, и суспензориумом с крупным остроконечным роговидным выростом. Дана определительная таблица для различения *A. isinus* Dlabola и *A. fuscus* sp. nov.

Ключевые слова: Adenissina, *Adenissus*, Аравийский полуостров, Фуджейра, Иран, морфология, Ommatidiotinae, систематика

INTRODUCTION

The Adenissini of Arabian Peninsula were recently reviewed by Gnezdilov and Wilson (2011) who recorded from this region the genus *Adenissus* Linnavuori, 1973 with two species – *A. brachypterus* Linnavuori, 1973 and *A. riadicus* Dlabola, 1985 and the genus *Raunolina* Gnezdilov et Wilson, 2006 (upgraded from subgenus to genus by Gnezdilov (2017)) with *R. arabica* Gnezdilov et Wilson, 2006. This year one more species, *R. jeddahica* Gnezdilov, 2017, was described from Saudi Arabia (Gnezdilov 2017). From United Arab Emirates until now just one species, *A. riadicus* Dlabola, was known (Gnezdilov and Wilson 2006, 2011). Here I describe a new species of the genus *Adenissus* from Wadi Wurayah National Park in Fujairah Emirate closely related to *A. isinus* Dlabola, 1980 known from Hormozgan Province (Poshteh-ye Isin village) of Iran (Dlabola 1980).

Adenissus isinus Dlabola and *A. fuscus* sp. nov. represent a distinct group of species within *Adenissus* differs from other species of the genus by clearly elongate coryphe (Figs 1, 5, 7) (transverse in other species) and very long rostrum, reaching hind margin of sternum VII (Figs 2, 6, 8) (rostrum reaching just hind coxae in other species).

MATERIAL AND METHODS

Morphological terminology follows Gnezdilov (2003) and taxonomy of Caliscelidae – Gnezdilov (2013). The drawings were made using Leica MZ95 light microscope with camera lucida attached. The photos were taken using Leica MZ 95 with camera Leica DFC 290. Images are produced using the software Helicon Focus and Adobe Photoshop.

Type specimens of the species described below are deposited in the Zoological Institute of the Russian Academy of Sciences, Saint Petersburg, Russia.

SYSTEMATICS

Family Caliscelidae Amyot et Serville, 1843

Subfamily Ommatidiotinae Fieber, 1875

Tribe Adenissini Dlabola, 1980

Subtribe Adenissina Dlabola, 1980

Genus *Adenissus* Linnavuori, 1973

Type species. *Adenissus brachypterus* Linnavuori, 1973.

***Adenissus fuscus* sp. nov.**
(Figs 1–6, 9–16)

Holotype. Male, United Arab Emirates, Fujairah, 8 km NW Khorfakkan, Wadi Wurayah National Park, cordon, 165 m, N 25°23.366´ E 56°18.356´, 27 March 2017, on light in night, V.M. Gnezdilov leg.

Paratype. Female, United Arab Emirates, Fujairah, 8 km NW Khorfakkan, Wadi Wurayah National Park, cordon, 165 m, N 25°23.366´ E 56°18.356´, 22 March 2017, on light in night, V.M. Gnezdilov leg.

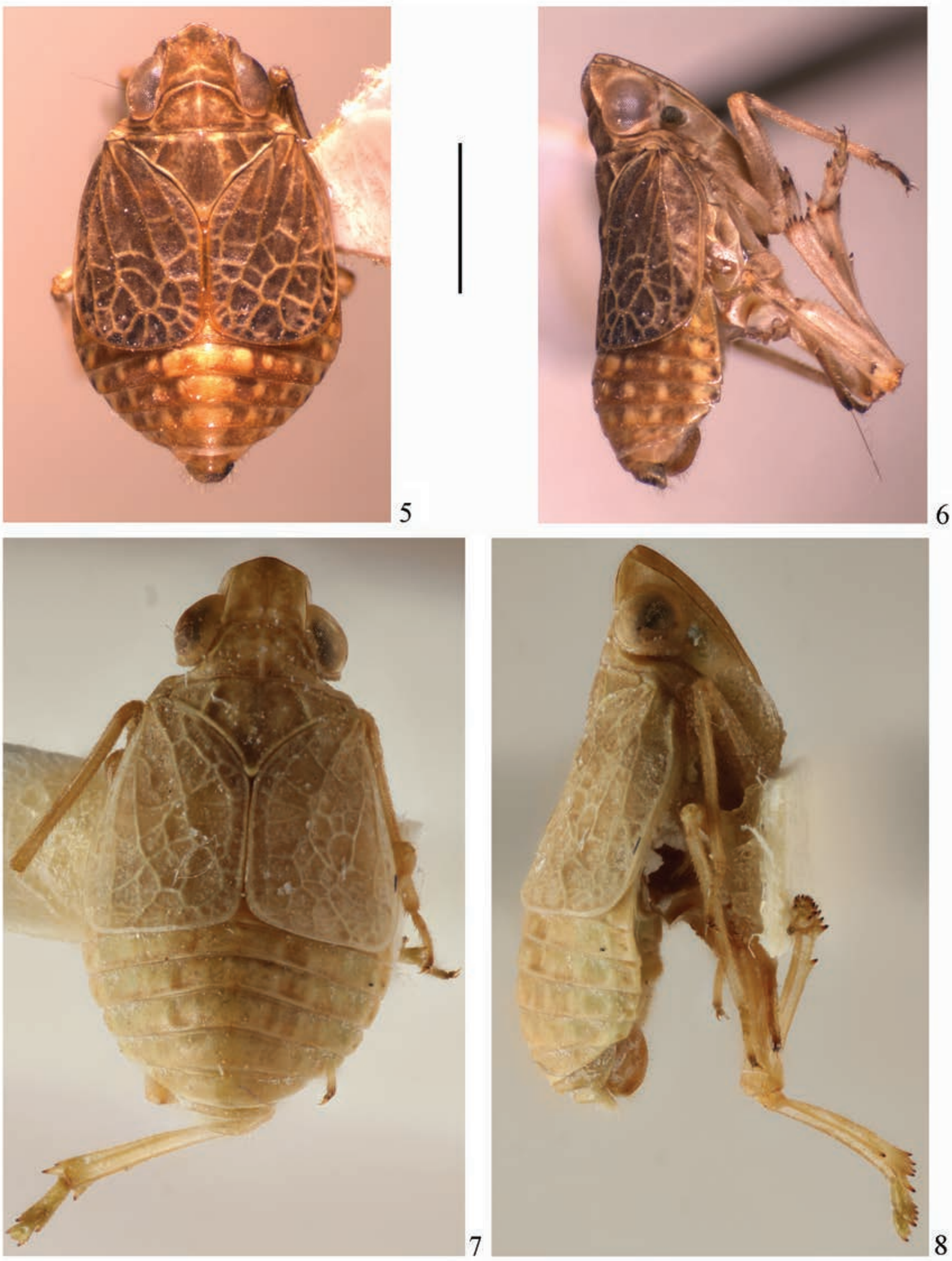
Etymology. The species named after brown to dark brown general coloration.

Diagnosis. Coryphe elongate (1.3 times as wide as long at midline). Rostrum long, reaching hind margin of sternum VII. Fore wings reaching hind margin of tergite IV. Phallobase wide (in ventral view), with denticated lateral margins and many denticles on ventral side. Pygofer with spine-shaped process in its upper part which arises on inner side. Suspensorium with large horn-shaped process, pointed apically.

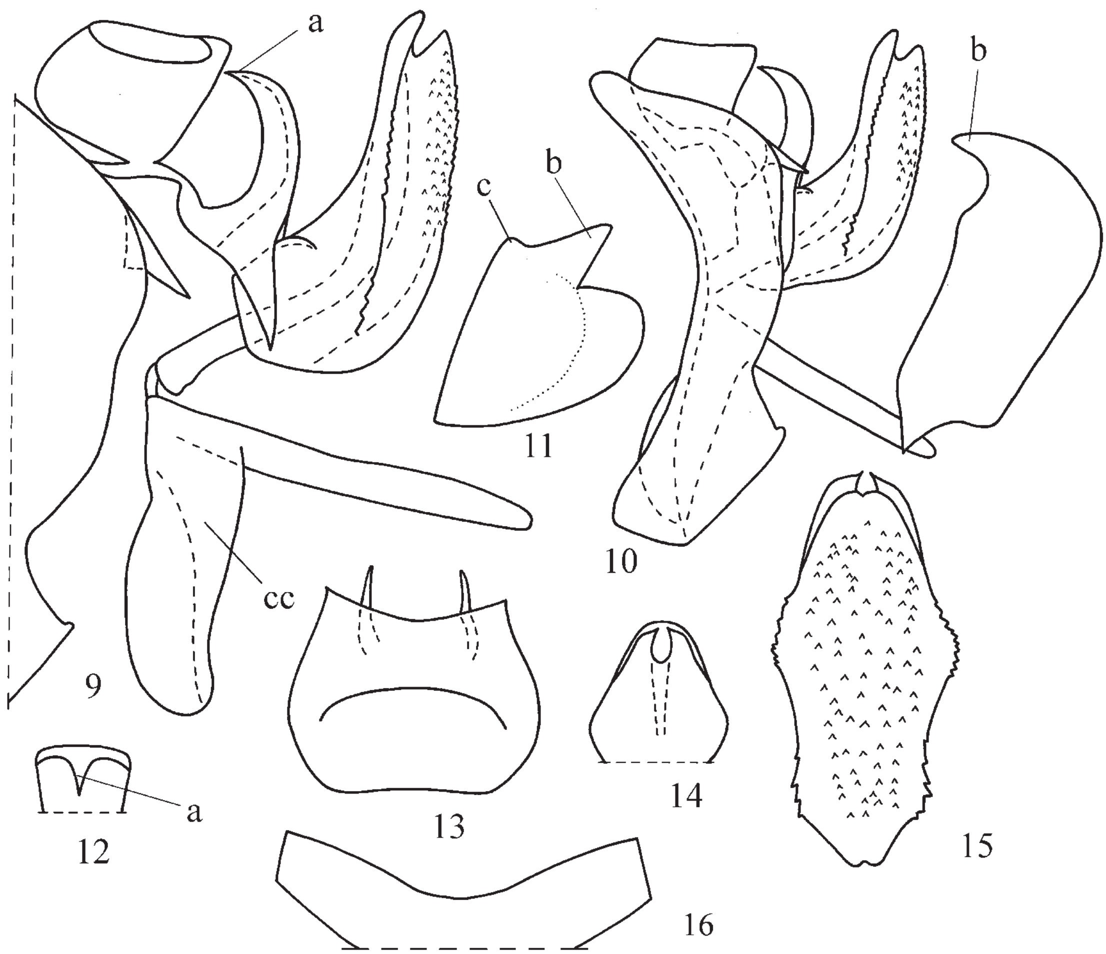
Description. Metope elongate, 1.5 times as wide between the eyes as long at midline, lateral margins weakly obtusely angulately convex below the antennae (Fig. 3). Metope with distinct median carina running from below its upper margin via metopoclypeal suture to post- and anteclypeus and with distinct sublateral carinae running from its upper margin (separately) to metopoclypeal suture which is not deep. Upper margin of metope weakly concave. Ocelli absent. Pedicell elongately cylindrical, with rows of large rhinaria (Fig. 2). Metope and coryphe joint at acute angle (in lateral view) (Figs 2, 6). Coryphe 1.3 times as wide as long at midline, concave, with median carina running from its posterior margin, but not reaching its anterior margin (Figs 1, 5). Rostrum long, far exceeding hind coxae and reaching hind margin of sternum VII (Figs 2, 6). Second segment of rostrum 1.5 times as long as third one which is narrowing apically. Pronotum nearly equal in length to coryphe at midline, with keel-shaped anterior margin and with weak median carina. Anterior margin of pronotum strongly convex, posterior margin straight. Paradiscal fields of pronotum comparatively wide. Paranotal lobes large and flat. Mesonotum 1.5 times as long as pronotum at midline, with median and lateral carinae. Fore wings with relief venation, widely rounded apicaly, reaching hind margin of tergite IV, with long and narrow hypocostal plate (Figs 1, 2, 5, 6). Radius and median running from



Figs 1–4. *Adenissus fuscus* sp. nov., male, holotype: 1 – dorsal view; 2 – lateral view; 3 – frontal view; 4 – genital block, caudal view.



Figs 5–8. *Adenissus* spp.: 5 – *A. fuscus* sp. nov., female, paratype, dorsal view; 6 – same, lateral view; 7 – *A. isinus* Dlabola, female, holotype, dorsal view; 8 – same, lateral view. Sclae bar – 1 mm.



Figs 9–16. *Adenissus fuscus* sp. nov. (9–15 – holotype, male genitalia; 16 – female): 9 – genital block with suspensorium and connective exposed, lateral view; 10 – genital block, lateral view; 11 – style, dorsal view; 12 – horn-shaped process of suspensorium, dorsal view; 13 – anal tube, dorsal view; 14 – apex of phallobase, dorsal view; 15 – phallobase, ventral view; 16 – female sternum VII. Abbreviations: a – apex of horn-shaped process of suspensorium; b – capitulum of style; c – additional tooth of capitulum of style; cc – connective "cup".

one point on basal cell, cubitus anterior rudimentary, cubitus posterior indistinct. Median and postcubitus furcating distally. Hind wings rudimentary. Hind tibia with single lateral spine in its apical third (Figs 2, 6) and with 7 apical spines. First metatarsomere 1.3 times as long as second one, with 2 latero-apical and 5 intermediate spines arranged in arc. Arolium of pretarsus short – claws twice as long as arolium (in dorsal view).

Female coloration. General coloration brown. Metope light brown yellowish, with dark brown traces of sensory pits. Rostrum with black apex. Pedicell light green. Coryphe, pro- and mesonotum, and fore wings brown to dark brown, with light carinae and veins. Apical cells of fore wings with black spots. Lower part of the body and legs light brown yellowish. Apices of third metatarsomeres of fore and middle tarsi and apices of leg spines black. Abdominal tergites light brown yellowish, with dark brown areas. Anal tube apically dark brown to black.

Male coloration. Generally similar to female. Coryphe, pro- and mesonotum including carinae dark brown. Fore wings with brown veins. Femora and tibiae with dark brown stripes and bands. Episternae and epimerae dark brown. Abdominal sternites IV–VII dark brown. Styles brown yellowish, with black spots basally. Dorsal side of anal tube medially and pygofer processes black.

Male genitalia (Figs 9–15). Pygofer narrow (in lateral view), with slightly convex hind margins bearing spine-shaped process in its upper part, which arises on inner side (Figs 4, 9, 10). Lower margin of pygofer under the style basements convex medially. Anal tube wide, widely truncate apically (in dorsal view) (Fig. 13). Anal column short and wide. Suspensorium well sclerotized, with large horn-shaped process, pointed apically and turned to ventral side of anal tube (Figs 9, 10, 12). Phallobase wide (in lateral view), curved at obtuse angle (Fig. 9). Ventral and dorso-lateral phallobase lobes fused, with 2 latero-apical concavities and one dorsal concavity (Figs 9, 10, 14). Phallobase wide (in ventral view), with denticated lateral margins and many denticles on ventral side (Fig. 15). Ventral phallobase lobe with median notch. Connective with long and narrow "cup" (Fig. 9, cc). Style massive, caudo-dorsal angle widely rounded, hind margin convex (in lateral view) (Fig. 10). Capitulum of style without neck, narrowing apically, with additional lateral tooth on inner side (in dorsal view) (Fig. 11, c).

Female genitalia. Hind margin of sternum VII concave medially (Fig. 16). Pygofer with convex hind margins. Gonoplacs rounded, not exciding behind the apex of anal tube (Fig. 6). Anal tube wide, nearly round, truncate apically.

Total length (from apex of coryphe to apex of anal tube in males or to apex of gonoplacs in female). Male – 4.0 mm, female – 4.6 mm.

Notes. Collected on light between 20.00 and 23.00.

Key to separate *Adenissus isinus* and *A. fuscus* sp. nov. (females)

1. Fore wings reaching hind margin of tergite III (Fig. 8). Yellow whitish in general coloration (Figs 7, 8). Total length – 6.3 mm. Iran . . . . ***A. isinus*** (Dlabola)
– Fore wings reaching hind margin of tergite IV (Fig. 6). Brown in general coloration (Figs 5, 6). Total length – 4.6 mm. United Arab Emirates . . . . ***A. fuscus*** sp. nov.

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REFERENCES

Dlabola J. 1980. Tribus-Einteilung, neue Gattungen und Arten der Subf. Issinae in der eremischen Zone (Homoptera, Auchenorrhyncha). *Acta Musei Nationalis Pragae*, **36B**(4): 173–248.

Gnezdilov V.M. 2003. Review of the family Issidae (Homoptera, Cicadina) of the European fauna, with notes on the structure of ovipositor in planthoppers. *Chteniya pamyati N.A. Kholodkovskogo* (*Meetings in memory of N.A. Cholodkovsky*), *St. Petersburg*, **56**(1): 1–145. [In Russian with English summary].

Gnezdilov V.M. 2013. Modern system of the family Caliscelidae Amyot et Serville (Homoptera, Fulgoroidea). *Zoologichesky Zhurnal*, **92**(10): 1309–1311. English translation published in *Entomological Review*, 2014, **94**(2): 211–214.

Gnezdilov V.M. 2017. First record of the genus *Raunolina* (Hemiptera, Fulgoroidea, Caliscelidae) from tropical Africa with description of two new species from Sudan and Saudi Arabia. *Acta Entomologica Musei Nationalis Pragae*, **57**(1): 11–22.

Gnezdilov V.M. and Wilson M.R. 2006. Systematic notes on tribes in the family Caliscelidae (Hemiptera: Fulgoroidea) with the description of new taxa from Palaearctic and Oriental Regions. *Zootaxa*, **1359**: 1–30.

Gnezdilov V.M. and Wilson M.R. 2011. Order Hemiptera, family Caliscelidae. *Arthropod fauna of the UAE*, **4**: 114–122.

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